REMARKS

We wish to thank the Examiner for granting the telephone interview that occurred on October 18, 2005.

A "scan lens" for a "telecentric scan lens" is a well-known term describing a specific class of lenses as described in the attached Xerox pages 18-2 to 18-3 of the 1995/96 Melles Griot Catalogue (found by looking up the words "scan lenses", in the index). In particular, the differences between a classical visual imaging objective and a laser scan lens is that part that is bracketed with an asterisk on page 18-3. In addition, I have enclosed a copy of pages 411 to 412 and Figures 22.1, 22.6 and 22.7 from "Modern Lens Design" by Warren J. Smith, published by McGraw-Hill in 1992. These pages describe what the author calls "scanner" lenses, but note that they are called "scan" lenses on the drawings. Also, note that in each case, the f*theta lenses described in the drawings have built-in negative Distortion to provide the f*theta condition. These lenses are clearly not ordinary objective lenses. From page 18-3 enclosed, it is clear that the laser scan lens has an external aperture stop or pupil. Further, in paragraph 22.2 on page 411 it is stated that the scanner lens operates with an oscillating mirror which scans the image across the field. To minimize the size of the scanning mirror, the pupil of the system is located at the mirror. Therefore, it is respectfully submitted that it is well known in the art that scan lenses have external entrance pupils and that the scanner is located at the entrance pupil.

While it should not be necessary to amend the claims, Applicant has amended the broad Claims 1, 21 and 23 accordingly to make it clear that that is the case.

On Page 2 of the Office Action, the Examiner states that since no further limitation as to the pupil's location is provided in the claim, the external entrance pupil claimed does not distinguish over the inherent entrance pupil of the reference. The White reference referred to in that paragraph of the Office Action is an objective lens, which has an internal entrance pupil. A scan lens has a combination of wide angular field, a flat image plane as well as an external entrance pupil. The objective lens 20 described in White cannot be used as a scan lens in accordance with the definition that is included in the application (see Page 15 beginning at Line 7). The Examiner states that since the objective lens in White is said to have a numerical aperture of 1.4 that clearly an immersion fluid must be used. But White does not describe any such immersion fluid as being used and, in fact, does describe the use of oil immersion optics at the condenser 25 (see Column 6 beginning at Line 8). The condenser 25 is on the opposite side of the substrate 23 from the objective lens 20 and the specimen 22. If immersion liquid is used,

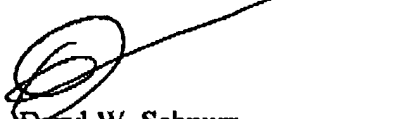
as stated by the Examiner, one must question why White did not state that immersion liquid was being used. It is therefore respectfully submitted that the Examiner's interpretation of White is incorrect not only with respect to the scan lens, but also with respect to the immersion liquid.

Stimson does disclose an immersion liquid, but Stimson also uses an objective lens and not a scan lens as defined and described in the present application. White describes a signal enhancement for fluorescence microscopy and Stimson describes a confocal scanning microscope apparatus.

Applicant is believed to the first to create a liquid immersion laser scan lens. It is respectfully submitted that it is not obvious to use an immersion liquid filling the space between the scan lens and an object. The use of an immersion liquid has increased the numerical aperture of the lens and has increased the resolution achievable with a scanning imaging system as well as increasing the laser energy density at the focal spot volume. It has further been discovered by the Applicant that the immersion fluid results in an increase in the resolution achievable with the scan lens. As discussed in the Description of the Prior Art of the present application, it was previously believed that the optical resolution of a macroscope could not be increased without decreasing the field of view. The results achieved by the Applicant are surprising and unexpected. It is therefore respectfully submitted that the rejection of anticipated based on White be withdrawn. It is further respectfully submitted that the rejection of the claims on the basis of obviousness over Dixon in view of Stimson, also be withdrawn. Macroscopes and microscopes have significant differences and it was not obvious that an immersion liquid would achieve the results achieved by the Applicant in the present application. It was not known prior to the present application whether or not the performance of a scan lens could be improved through the use of liquid immersion. It is therefore respectfully submitted that the rejections should be withdrawn.

It is further respectfully submitted that the application is in condition for allowance.

Yours very truly,



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